

WHAT IS CLAIMED IS:

1. A portable device having an image pick-up unit picking-up an image of an object and outputting image information, comprising:
 - a light source emitting light to said object;
 - control means for controlling an emission by said light source based
 - 5 on quantity of light emission, in an image pick-up mode; and
 - exposure detecting means for detecting exposure level based on said image information; wherein
 - said control means includes
 - light emission quantity determining means for determining said
 - 10 quantity of light emission,
 - comparing means for comparing said exposure level detected by said exposure detecting means with said light source emitting light based on said light emission quantity determined by said light emission quantity determining means and said exposure level detected by said exposure
 - 15 detecting means with said light source not emitting light; and
 - said light emission quantity determining means determines said light emission quantity based on a result of comparison by said comparing means.
2. The portable device having an image pick-up unit according to claim 1, wherein
 - said comparing means detects a difference by comparing said
 - exposure level detected by said exposure detecting means with said light
 - 5 source emitting light based on said light emission quantity determined by said light emission quantity determining means and said exposure level detected by said exposure detecting means with said light source not emitting light; and
 - said light emission quantity determining means determines, based
 - 10 on said difference detected by said comparing means, said light emission quantity to have said exposure level match an optimal level.

3. The portable device having an image pick-up unit according to claim 2, wherein

said optimal level is a target said exposure level for said image information.

4. The portable device having an image pick-up unit according to claim 2, wherein

5 said comparing means and said light emission quantity determining means are activated repeatedly until said exposure level detected by said exposure detecting means with said light source emitting light based on said light emission quantity determined by said light emission quantity determining means and said exposure level detected by said exposure detecting means immediately thereafter with said light source not emitting light match said optimal level.

5. The portable device having an image pick-up unit according to claim 2, further comprising

a storing unit storing image data corresponding to said image information; wherein

5 when said exposure level detected by said exposure detecting means matches said optimal level, said image data is stored in said storing unit.

6. The portable device having an image pick-up unit according to claim 2, further comprising

a shutter key operated from the outside to instruct storage of said image data to said storing unit; wherein

5 when said exposure level detected by said exposure detecting means matches said optimal level, whether said shutter key is operated or not is determined.

7. The portable device having an image pick-up unit according to claim 2, wherein

said light emission quantity determining means includes a table

5 having said light emission quantity registered corresponding to each of a plurality of said differences; and
said table is looked-up based on said difference detected by said comparing means to read corresponding said light emission quantity.

8. The portable device having an image pick-up unit according to claim 2, wherein
said control means further includes
starting state setting means for setting said light source to a non-
5 emission state at a start of said image pick-up mode, and
start level determining means for determining whether said exposure level detected by said exposure detecting means in said non-emission state set by said starting state setting means matches said optimal level or not; wherein
10 when it is determined by said start level determining means that the exposure level does not match, said light emission quantity determining means and said comparing means are activated.

9. The portable device having an image pick-up unit according to claim 8, wherein
when it is determined by said start level determining means that the exposure level does not match, said light emission quantity determining
5 means determines said light emission quantity to be the maximum quantity that can be emitted by said light source.

10. The portable device having an image pick-up unit according to claim 1, wherein
said image pick-up mode includes a close-up mode and a non-close-up mode that are switchable.

11. An exposure adjusting device, comprising:
exposure detecting means for detecting an exposure level based on image information obtained by picking-up an image of an object;

5 light emission quantity determining means for determining, in an
image pick-up mode, a light emission quantity of a light source provided in
advance for emitting light to said object; and

comparing means for comparing said exposure level detected by said
exposure detecting means with said light source emitting light based on
said light emission quantity determined by said light emission quantity
10 determining means and said exposure means detected by said exposure
detecting means with said light source not emitting light; wherein

said light emission quantity determining means determines said
light emission quantity based on a result of comparison by said comparing
means.

12. The exposure adjusting device according to claim 11, wherein
said comparing means detects a difference by comparing said
exposure level detected by said exposure detecting means with said light
source emitting light based on said light emission quantity determined by
5 said light emission quantity determining means and said exposure level
detected by said exposure detecting means with said light source not
emitting light; and

said light emission quantity determining means determines, based
on said difference detected by said comparing means, said light emission
10 quantity to have said exposure level match an optimal level.

13. The exposure adjusting device according to claim 12, wherein
said optimal level is a target said exposure level for said image
information.

14. The exposure adjusting device according to claim 12, wherein
said comparing means and said light emission quantity determining
means are activated repeatedly until said exposure level detected by said
exposure detecting means with said light source emitting light based on
5 said light emission quantity determined by said light emission quantity
determining means and said exposure level detected by said exposure

detecting means immediately thereafter with said light source not emitting light match said optimal level.

15. The exposure adjusting device according to claim 12, wherein said light emission quantity determining means includes a table having said light emission quantity registered corresponding to each of a plurality of said differences; and

5 said table is looked-up based on said difference detected by said comparing means to read corresponding said light emission quantity.

16. The exposure adjusting device according to claim 12, further comprising:

starting state setting means for setting said light source to a non-emission state at a start of said image pick-up mode, and

5 start level determining means for determining whether said exposure level detected by said exposure detecting means in said non-emission state set by said starting state setting means matches said optimal level or not; wherein

10 when it is determined by said start level determining means that the exposure level does not match, said light emission quantity determining means and said comparing means are activated.

17. The exposure adjusting device according to claim 16, wherein when it is determined by said start level determining means that the exposure level does not match, said light emission quantity determining means determines said light emission quantity to be the maximum
5 quantity that can be emitted by said light source.

18. The exposure adjusting device according to claim 11, wherein said image pick-up mode includes a close-up mode and a non-close-up mode that are switchable.

19. A portable device having an image pick-up unit picking-up an

image of an object and outputting image information, comprising:
a light source emitting light to said object;
a storing unit storing image data corresponding to said image
5 information;
a shutter key; and
control means storing image data corresponding to said image
information in said storing unit in response to an operation of said shutter
key, and starting emission of light of said light source in response to an
10 exposure level based on said image information regardless of an operation
of said shutter key when an image pick-up mode is set.

20. The portable device having an image pick-up unit according to
claim 19, wherein
said control means stops emission of said light source in response to
the exposure level based on said image information regardless of the
5 operation of said shutter key, in a state after emission of said light source is
started.

21. The portable device having an image pick-up unit according to
claim 20, further comprising
a display unit for displaying various pieces of information; wherein
said control means displays image data corresponding to said image
5 information on said display unit when said image pick-up mode is set.

22. The portable device having an image pick-up unit according to
claim 19, further comprising
a display unit for displaying various pieces of information; wherein
said control means displays image data corresponding to said image
5 information on said display unit when said image pick-up mode is set.